CLAIMS

What is claimed is:

- 1 1. A method of transferring data between a computer and a non-volatile storage device, both
- 2 said computer and said storage device coupled to a network, comprising:
- 3 (a) encrypting the data;
- 4 (b) transmitting the encrypted data across a network to the storage device; and
- 5 (c) storing the encrypted data on the storage device.
 - 2. The method of claim 1 wherein (b) also includes creating a header containing destination information pertaining to the storage device and transmitting the encrypted data in conjunction with the header.
 - 3. The method of claim 2 wherein the header or footer contains cryptographic metrics on the data.
 - 4. The method of claim 2 wherein (c) includes removing the header before storing the encrypted data on the storage device.
- 1 5. The method of claim 4 wherein the header or footer contains cryptographic metrics for the
- 2 data and using said metrics to validate the integrity/authenticity of the data prior to storing the
- 3 encrypted data on the storage device.

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1 6. The method of claim 1 further including retrieving the encrypted data from the storage

- 2 device and transmitting said encrypted data to the computer.
- 1 7. The method of claim 6 further including receiving the encrypted data at the computer and
- 2 decrypting the encrypted data received by the computer.
- 1 8. The method of claim 6 further including transmitting said encrypted data to the computer
- 2 with a header that provides routing information pertaining to the computer.
 - 9. The method of claim 1 further including retrieving the encrypted data from the storage device, encrypting the encrypted data with a pre-determined key, and transmitting the twice encrypted data to the computer.
 - 10. The method of claim 9 further including twice decrypting the twice encrypted data received by the computer.
- 1 11. A method of transferring data between a computer and a nonvolatile storage device, both
- 2 said computer and said storage device coupled to a network, comprising:
- 3 (a) retrieving encrypted data from the storage device;
- 4 (b) transmitting the encrypted data across a network from the storage device to the
- 5 computer; and

- 6 (c) receiving the encrypted data at the computer;
- 7 (d) decrypting the encrypted data received in (c).

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- 1 12. The method of claim 11 wherein (b) also includes creating a header containing destination
- 2 information pertaining to the computer and transmitting the encrypted data in conjunction with the
- 3 header.
- 1 13. The method of claim 11 further including removing the header before decrypting the
- 2 encrypted data received in (c).
 - 14. The method of claim 11 further including:
 - (e) encrypting data by a computer;
 - (f) transmitting the encrypted data from the computer across a network to the storage device; and
 - (g) storing the encrypted data on the storage device.
 - 15. The method of claim 14 wherein (f) also includes creating a header containing destination information pertaining to the storage device and transmitting the encrypted data in conjunction with the header.
- 1 16. The method of claim 15 wherein (g) includes removing the header before storing the
- 2 encrypted data on the storage device.

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- 1 17. The method of claim 11 further including encrypting the encrypted data retrieved from the
- 2 storage device in (a) and, in (b) transmitting the twice encrypted data across the network to the
- 3 computer, and in (c) receiving the twice encrypted data.
- 1 18. The method of claim 17 wherein (d) includes twice decrypting the twice encrypted data
- 2 received in (c).
 - 19. A computer system, comprising:
 - a computer; and
 - a nonvolatile storage device external to said computer and coupled to said computer over a network;
 - wherein said computer sends encrypted data to said storage device over said network and said storage device stores the data in encrypted form.
 - 20. The computer system of claim 19 wherein said computer sends said encrypted data to said storage device with a header that contains destination information pertaining to the storage device.
- 1 21. The computer system of claim 20 wherein said storage device removes the header before
- 2 storing the encrypted data.
- 1 22. The computer system of claim 20 wherein said storage device retrieves encrypted data from
- 2 storage and transmits said encrypted data to the computer over the network.

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- 1 23. The computer system of claim 22 wherein said computer receives the encrypted data at the
- 2 computer from the storage device and said computer decrypts the encrypted data.
- 1 24. The computer system of claim 22 wherein said storage device transmits said encrypted with
- 2 a header that provides routing information pertaining to the computer.
- 1 25. The computer system of claim 20 wherein said storage device retrieves encrypted data from
- 2 storage therein, encrypts said encrypted data and transmits the twice encrypted data to the
 - computer.
 - 26. The computer system of claim 25 wherein said computer twice decrypts the twice
 - encrypted data transmitted to the computer by the storage device.
 - 27. A computer system, comprising:
 - a computer; and
 - a nonvolatile storage device external to said computer and coupled to said computer over a
- 4 network;
- 5 wherein said storage device retrieves encrypted data stored therein, transmits the encrypted
- data across the network to said computer wherein the computer receives and
- 7 decrypts the encrypted data.

- 1 28. The computer system of claim 27 wherein said storage device creates a header containing
- 2 destination information pertaining to the computer and transmits the encrypted data with the header
- 3 to the computer.
- 1 29. The computer system of claim 28 wherein said computer removes the header before
- 2 decrypting the encrypted data received from the storage device.
- 1 30. The computer system of claim 27 wherein said computer encrypts data and transmits said
- 2 encrypted data to said storage device where said encrypted data is stored.
- 31. The computer system of claim 30 wherein said computer creates a header containing
- destination information pertaining to the storage device and transmits the encrypted data with the
- 1 31. The computer system
 2 destination information perta
 3 header to the storage device.
 1 32. The computer system
 - 32. The computer system of claim 31 wherein the storage device removes the header before
 - 2 storing the encrypted data.
 - 1 33. The computer system of claim 27 wherein the encrypted data retrieved by the storage
 - 2 device is again encrypted and the storage device transmits the twice encrypted data across the
 - 3 network to the computer.
 - 1 34. The computer system of claim 33 wherein the computer twice decrypts the twice encrypted
 - 2 data received from the storage device.

- 1 35. A method of transferring data between a computer and a non-volatile storage device, both
- 2 said computer and said storage device coupled to a network, comprising:
- 3 (a) issuing a transmission command for data;
- 4 (b) encrypting the data as part of the transmission process;
- 5 (c) transmitting the encrypted data across a network to the storage device; and
- 6 (d) storing the encrypted data on the storage device.
 - 36. The method of claim 35 wherein (a) includes encrypting the data with a dynamically generated session key.
 - 37. The method of claim 36 further including retrieving the encrypted data from the storage device, transmitting said encrypted data to the computer, and decrypting the encrypted data using said session key.

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